

ABSTRACT

In a projection optical system which forms an image of a first plane on a second plane, using extreme ultraviolet illumination light, an object of the invention is to form an image on the first plane on the second plane under suitable conditions. This projection optical system comprises a first diffractive optical element arranged in an optical path between the first plane and the second plane; a second diffractive optical element arranged in the optical path on the side of the second plane from the first diffractive optical element; and an optical system having a negative power, arranged in the optical path between the first diffractive optical element and the second diffractive optical element.